

EARLY BILL PAYMENT PROCESS**Field of the Invention**

[001] This invention relates to the payment of bills and, more particularly, to the electronic payment of bills that are in a physical mail stream.

Background of the Invention

[002] Consumers purchase goods and/or services from merchants, banks, mortgage companies, etc., who, in turn, submit a bill, i.e., statement, invoice, payment notice, etc., to the consumer for the payment of the goods, loan and/or services received. The consumer then writes a check to the biller and sends the check to the biller by physical mail. The biller, in turn, deposits the check in biller's bank. The biller's bank debits the consumer for the amount of the check and credits the biller for the amount of the check. The biller credits the consumer for the amount of payment received.

[003] Typically, it takes the United States Postal Service (USPS) three to five days to deliver mail to a recipient. If certain bills, i.e., loans, credit cards, etc., are not received by the biller by the bill's due date, the consumer may be charged a late fee and/or a finance charge. Sometimes, consumers do not have enough money in their accounts to pay their bills on time since they are waiting to receive a particular check, or they forget that the payment of a bill is due in a few days. In the above instances, the consumers

may use their home personal computer to pay their bills from a consumer account over the Internet.

[004] Many people do not own computers, and a large number of people who own computers are not connected to the Internet. Thus, the aforementioned individuals will have difficulty in paying their bills that are due in the next few days on time.

SUMMARY OF THE INVENTION

[005] The present invention overcomes the disadvantages of the prior art by enabling consumer bill recipients to pay their bills via the USPS or other carrier sooner than was heretofore possible. This invention accomplishes the foregoing by enabling a company to send a bill to a consumer bill recipient by which the consumer bill recipient pays his/her bill via the USPS or other carrier sooner than was heretofore possible. The foregoing is accomplished by enabling a company to send a bill to a bill recipient that contains a bill-paying return portion in the form of a mail piece having a Planet code and Postnet bar code that reference the bill recipient and amount to be paid on the outside of mail piece, so that when a scanner at the USPS reads the Planet code and Postnet bar code, the bill recipient's bank account will be debited for the entire amount of the bill, or a minimum payment that is due for the bill, or a minimum payment for the bill plus a specified amount.

[006] This invention allows a consumer to securely identify himself/herself to the USPS, other carrier, or a trusted third party on the outside of mail.

Brief Description of the Drawing

[007] Fig. 1A is a drawing of a mail piece indicating full payment of a bill before the mail piece is posted;

[008] Fig. 1B is a drawing of a mail piece indicating minimum payment of a bill before the mail piece is posted;

[009] Fig. 1C is a drawing of a mail piece indicating a payment above the minimum payment of a bill before the mail piece is posted;

[010] Fig. 2 is a drawing of bar codes 21 and 23 of Fig. 1A for full payment of the bill;

[011] Fig. 3 is a drawing of mail piece 11 shown in Fig. 1A after mail piece 11 has been posted and scanned by the USPS;

[012] Fig. 4 is a block diagram of the process flow of mail piece 11;

[013] Fig. 5 is a flow chart showing the processing of the preparation of mail piece 11 of Fig. 1A; and

[014] Fig. 6A and 6B is a flow chart that shows the bill payment process.

Detailed Description of the Preferred Embodiment

[015] Referring now to the drawings in detail, and more particularly to Fig. 1A, the reference character 11 represents one or more mail pieces that were enclosed in an envelope (not shown) that was sent by a creditor, i.e.; ABC Company, and delivered to Mr. Bill Recipient of 9 Cross Hill Road, Bethel, CT 06801-3221. Mail piece 11 is a full payment mail piece that Mr. Bill Recipient uses when he wants to pay the full amount that is due on a particular bill or loan payment, i.e., monthly mortgage payment; monthly car loan payment; electric bill; water bill; gas bill; oil bill, credit card bill, house insurance statement, car insurance statement, etc. Mail piece 11 has an address field 20 that indicates the billing company, i.e., ABC Company, that prepared mail piece 11, and a bill recipient address field 22, that indicates the party receiving the bill. Planet bar code 21 appears above address field 22 and Postnet bar code 23, that uniquely identifies Mr. Bill Recipient, appears below address field 22. Bar codes 21 and 23 will be more fully described in the descriptions of Figs. 2A and 2B. An indication of postage payment 24 is placed on mail piece 11. Optionally, the billing company, i.e., ABC Company, may indicate in space 18 the full amount that is due, i.e., \$4,023,56. Mr. Bill Recipient may cover space 18 with a label when he returns mail piece 11 to ABC Company, or mail piece 11 may be a windowed envelope that covers space 18 so the amount of payment is not shown. However, bar codes 21 and 23 and address field 22 will be shown.

[016] Fig. 1B is a drawing of a mail piece 12 indicating minimum payment of a bill before the mail piece was posted. One or more mail pieces 12 were enclosed in the

same envelope as mail piece 11 (Fig. 1) (not shown), mail piece 13 (Fig. 1C) that was sent by ABC Company and delivered to Mr. Bill Recipient of 9 Cross Hill Road, Bethel, CT 06801-3221. Mail piece 12 is a minimum payment mail piece which Mr. Bill Recipient uses when he wants to pay the minimum amount that is due on a particular bill or loan payment, i.e., monthly mortgage payment; monthly car loan payment; electric bill; water bill; gas bill; oil bill, credit card bill, house insurance statement, car insurance statement, etc. Mail piece 12 has an address field 20 that indicates the billing company, i.e., ABC Company, that prepared mail piece 12, and a bill recipient address field 22, that indicates the party receiving the bill. Planet bar code 25 appears above address field 22, and Postnet bar code 23 appears below address field 22. Bar codes 23 and 25 will be more fully described in the description of Fig. 2. An indication of postage payment 24 is placed on mail piece 12. Optionally, the billing Company, i.e., ABC Company, may indicate in space 19 the minimum amount that is due, i.e. \$123.00.

[017] Fig. 1C is a drawing of a mail piece 13 indicating a payment above the minimum payment of a bill before the mail piece is posted. One or more mail pieces 13 were enclosed in the same envelope as mail piece 11 (Fig. 1) (not shown), mail piece 12 (Fig. 1B) that was sent by ABC Company and delivered to Mr. Bill Recipient of 9 Cross Hill Road, Bethel, CT 06801-3221. Mail piece 13 is a minimum payment plus a payment above the minimum payment mail piece which Mr. Bill Recipient uses when he wants to pay the minimum amount plus a specified amount determined by Mr. Bill Recipient that is due on a particular bill or loan payment, i.e., monthly mortgage payment, monthly car loan payment, electric bill, water bill, gas bill, oil bill, credit card bill, house insurance

statement, car insurance statement, etc. Mail piece 13 has an address field 20 that indicates the billing company, i.e., ABC Company, that prepared mail piece 13, and a bill recipient address field 22, that indicates the party receiving the bill. Planet bar code 35 appears above address field 22, and Postnet bar code 23 appears below address field 22. Bar codes 23 and 35 will be more fully described in the description of Fig. 2. An indication of postage payment 24 is placed on mail piece 13. Optionally, the billing Company, i.e., ABC Company, may indicate in space 19 the minimum amount that is due, i.e. \$123.00, and Mr. Bill Recipient may indicate an amount above the minimum payment that is due, i.e., \$50.00. To indicate the \$50.00 extra amount, Mr. Bill Recipient will fill in the appropriate circles 36 with a black pen or number 2 pencil to indicate \$50.00.

[018] Fig. 2 is a drawing of bar codes 21 and 23 of Fig. 1A and Fig. 3. Frame bar 200 indicates the beginning of Planet code 21, and frame bar 201 indicates the end of Planet code 21. Planet code 21 also includes bars that represent digits 202–213. Digits 202–213 each contain five bars, which are used to represent digits 0–9. Digits 202 and 203 are used to represent the mail piece type, namely, type 48 which is a bill payment reply. Digits 204–208 represent the billing company identification number, i.e., number 00477; digits 209–211 represent information that identifies Mr. Bill Recipient's Account number at the address referenced by the location identification (digits 222–232). Digit 212 is a "1" which identifies the payment amount, i.e., the full payment of the bill, namely \$4,023.56 (if digit 212 was a "2", it would identify the minimum payment amount Fig. 1B and be bar code 25, or if digit 212 was a "3", it would identify the

minimum payment amount plus the amount specified in circles 36 Fig. 1C and be bar code 35); and, digit 213 represents an error-checking digit that is used to validate Planet code 21. It would be obvious to one skilled in the art that additional digits may be added to increase the information in bar codes 21 and 23, i.e., payment amount, etc.

[019] Frame bar 220 indicates the beginning of Postnet bar code 23, and frame bar 221 indicates the end of Postnet bar code 23. Digits 222-233 each contain five bars which are used to represent digits 0-9. Digits 222-232 identify the customer's location, identification i.e., it is customer location number 068013221991 which happens to be encoded to represent 9 Cross Hill Road, Bethel, CT 06801-3221. Thus, by using the customer location identification digits 222-232 of Postnet code 23, and digits 204-208 that represent billing company identification and digits 209-211 that represent the customer account number of Planet code 21, a particular account for Mr. Bill Recipient of 9 Cross Hill Road, Bethel, CT 06801-3221 is uniquely identified. Digit 233 represents an error-checking digit that is used to validate Postnet bar code 23. The billing company, i.e., ABC Company, is able to obtain Mr. Bill Recipient's bank account by using Mr. Bill Recipient's account number and Mr. Bill Recipient's location identification to find Mr. Bill Recipient's bank account number in ABC Company's database.

[020] Fig. 3 is a drawing of mail piece 11 shown in Fig. 1A after mail piece 11 has been posted and scanned by the USPS. After bar codes 21 and 23 are scanned, the USPS places an indication of electronic payment 26 of the bill on mail piece 11. The scanned

information is used to provide information for the transfer of funds from Mr. Bill Recipient to ABC Company as described in the description of Figs. 6A and 6B.

[021] Then the USPS delivers mail piece 11 to Mr. Bill Recipient and provides information to ABC Company so that ABC Company may debit Mr. Bill Recipient's bank account for the amount shown in space 18 and Planet code 21, namely, \$4,023.56. The payment of the bill is described in the description of Fig. 6B. It would be obvious to one skilled in the art that the USPS, a third party, or Mr. Bill Recipient may create the payment transaction and execute it.

[022] Fig. 4 is a block diagram of the process flow of mail piece 11 and mail piece 12. The process begins in data base 110, where information for the bill, i.e., mail piece 11 or 12 is stored. Data base 110 contains the minimum payment Planet code; the full payment Planet code; the Postnet bar codes; the full payment amount; the minimum payment amount; Mr. Bill Recipient's account number; Mr. Bill Recipient's bank account number; and Mr. Bill Recipient's bank routing number. Biller's computer 120 will send data to database 110 and receive data from data base 110. Computer 120 will send data to printer 130 so that printer 130 will be able to print the information appearing on mail piece 11 (Fig. 1A) and mail piece 12 (Fig. 1B).

[023] Mail pieces 11 or 12 will be mailed and delivered to bill recipient 140. Mr. Bill Recipient will decide if he wants to pay the bill in full or make a minimum payment on the bill. If Mr. Bill Recipient decides he wants to pay the bill in full, he will mail, mail

piece 11. If Mr. Bill Recipient decides he wants to make a minimum payment, he will mail, mail piece 12.

[024] Scanners 150 at the USPS will scan and interpret Planet code 21 and Postnet bar code 23 if mail piece 11 was mailed (Fig. 1A) or scan and interpret Planet code 25 and Postnet bar code 23 if mail piece 12 was mailed (Fig. 1B), or scan and interpret Planet code 35, Postnet bar code 23 and circles 36 if mail piece 13 was mailed (Fig. 1C). The interpreted Planet and Postnet bar codes and circles will be sent to USPS computer 160. Computer 160 will process the scanned Planet code, Postnet bar code, scan date, scan location and scan type (initial scan, process scan, final scan) from scanner 150. Computers 160 and 120 will be coupled to USPS data base 170 to obtain mail piece data. Biller's computer 120 will reconcile the bill it produced, i.e., mail piece 11 with the bill, i.e., mail piece that was just scanned. Then the information will be sent to bill payment database 110 to begin the funds transfer process. Bill payment computer 180 will use the information in database 110 to create an electronic funds transfer between Biller's bank computer 200 and Bill Recipient's bank computer 190.

[025] Bill Recipient's bank computer 190 will receive Mr. Bill Recipient's Bank Account Number and the amount of funds to debit from Mr. Bill Recipient's bank account, which will be credited to ABC Company. ABC Company biller's bank computer will be credited for the funds debited to Mr. Bill Recipient's bank 190. The USPS, the customer recipient's bank and/or the company biller bank may charge the company biller for the above. Advantages of the foregoing are that the company biller will receive its money

sooner, i.e., shortly after mail piece 11 or 12 is scanned by the USPS, and eliminate some bill processing costs.

[026] Fig. 5 is a flow chart showing the processing of the preparation of mail piece 11 of Fig. 1A. The program begins in block 290 where a Postnet bar code is assigned to Mr. Bill Recipient. In block 300, a Planet code is assigned to Mr. Bill Recipient for the minimum payment that is due. In block 310, a Planet code is assigned to Mr. Bill Recipient for the full payment that is due. Now in block 315, a Planet code is assigned to Mr. Bill Recipient for the minimum payment that is due plus an amount specified by Mr. Bill Recipient in circles 36. Now in block 320, an account number is assigned to each Planet code. The data from blocks 290, 300, 310, 315 and 320 is transmitted to bill payment database 110, and then block 330 retrieves the above information from block 110 and prints the information appearing on mail piece 11 (Fig. 1A) or the information appearing on mail piece 12 (Fig. 1B). Then the program goes to block 340 where the USPS delivers mail pieces 11 and 12 to Mr. Bill Recipient in a envelope (not shown). Now the program goes to block 350 and is finished.

[027] Fig. 6A and 6B is a flow chart that shows the bill payment process. In block 600 (Fig. 6A), Mr. Bill Recipient determines the amount of the bill that he is going to pay. Now in block 610, Mr. Bill Recipient selects the appropriate payment mail piece, i.e., mail piece 11 (Fig. 1A) for full payment or mail piece 12 (Fig. 1B) for minimum payment, or mail piece 13 (Fig. 1C) for minimum payment plus a specified amount. Then the program goes to block 620 where Mr. Bill Recipient mails the selected mail piece, i.e.,

mail piece 11. Then in block 630, the USPS scans mail piece 11 and obtains the Planet code and Postnet bar code from mail piece 11. The scanned data will be transmitted to USPS database 170. Then in block 640, the USPS prints the indication of electronic payment of the bill on mail piece 11 (Fig. 3).

[028] Now in block 650, the USPS delivers mail piece 11 to Mr. Bill Recipient. Then the program goes to block 660 and is finished.

[029] The program begins in block 410 (Fig. 6B) where data from USPS database 170 is retrieved by block 410. Then block 420 removes duplicate data entries from USPS database 170. Then in block 430, for each data entry, blocks 440 through 480 are preformed.

[030] Then block 440 retrieves the Postnet bar code on mail piece 11 to identify Mr. Bill Recipient location. Now in block 450, the Planet code from mail piece 11 or 12 is retrieved to identify the bill account number and the payment amount. At this point, block 460 stores the payment information received from block 450. The foregoing payment information is also stored in bill payment database 110. Then block 470 retrieves Mr. Bill Recipient's bank information from database 110. The payment transaction is executed after all data entries have been processed, then block 490 executes the payment transactions created by blocks 440–480, which have been stored in bill payment database 110. Now the program goes to block 500 and is finished.

[031] The above specification describes a new and improved method for enabling a consumer bill recipient to pay his/her bills via the USPS or other carrier sooner than was heretofore possible. It is realized that the above description may indicate to those skilled in the art additional ways in which the principles of this invention may be used without departing from the spirit. Therefore, it is intended that this invention be limited only by the scope of the appended claims.